

Understanding Antecedents of Continuance Intention in Mobile Travel Booking Service

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Abstract

Based on the theory of planned behavior and expectation-confirmation model, this paper tried to develop an integrated model for understanding users' continuance intention behavior toward mobile travel booking service. A total of 543 valid questionnaires were collected and proposed research model were tested by using structural equation modeling. The results revealed that the continuance intention of mobile travel booking service is affected by perceived usefulness, user satisfaction, subject norm and perceived behavioral control. Among them, the user satisfaction had the most significant influence. And finally, the author proposed the strategies by discussing the results.

Keywords: mobile travel booking service, continuance intention, subjective norm, TPB, ECM

1. Introduction

The modern technology featuring new internet network and mobile communication is exerting profound influence on the development course of tourism industry while bringing tourists convenient, brisk and brand-new travel experience. Mobile travel booking service (MTBS), as a new way of travel booking, means that consumer can use mobile devices to book air tickets, hotels, resorts and other tourism product or service on the move via GPRS, 3G/4G, Wi-Fi and other wireless network, which is popular with (Yang, Zhong, & Zhang, 2013). Compared to the traditional online travel booking, the main characteristic of mobile travel booking is that consumer can booking tourism products or service at anytime from anywhere (Wang & Liao, 2008). According to the data from China online travel booking industry development report (CNNIC, 2013), the number of online travel booking user has reached 133 million, and the user with mobile booking experience is about 20.3%. and the figure will increase for the popularization of smart mobile and improvement of APP booking. At the same time, a large number of on-line travel agencies such as Ctrip, Elong and Qunar have increased the investment on mobile booking and attracted users by launching travel booking APP. However, mobile travel booking as a specific information system, if no user long-term effectively use, it is hard for the travel service provider to get benefit. Therefore, it is necessary for this paper to identify the factors affecting continuance intention of mobile travel booking service.

In the information system (IS) literature, expectation-confirmation model (ECM) is a widely accepted theoretical framework to understand users' continuance intention behavior, and many other studies with this model have been expanded (Larsen, Sørensen, & Sørensen, 2009; Tang & Chiang, 2010; Lee, 2010). However, few studies have focused on the continuance intention of mobile travel booking service. According to the Bull (1995), travel is a human activity which encompasses human behavior, use of resources, and interaction with other people, economies and environments, which implies that research on the new technology about tourism needs to take into account some factors other than ECM model. Since the theory of planned behavior (TPB) posits subjective norm and perceived behavioral control as the key determinants of behavioral intention (Ajzen, 1991). Therefore, this research integrates ECM and TPB to investigate what affected the mobile travel booking service continuance intention. The findings are useful to mobile travel booking services providers for formulating marketing strategic to increase the customers' satisfaction and continuance intention.

2. Literature Review and Hypotheses Development

2.1 Mobile Service Continuance Intentions

The mobile services is defined as an application services accessible from mobile phone via wireless and mobile communication networks (Revels, Tojib, & Tsarenko, 2010). With the development of mobile service, scholars have attached importance on continuous application of mobile service. Zhou (2013) combined information systems success model with flow theory to research the continuance intention of mobile payment and found that trust, flow and satisfaction positively affected consumers' continuance use intention. Chen, Liu, & Lin (2013) integrated technology readiness into ECM model to study continuance intention of mobile service users. Kim (2010) incorporated the TPB into ECM to investigate the mobile data service continuance intention. Kuo, Wu, & Deng (2009) discussed continuance intention of mobile value-added services by service quality, perceived value and satisfaction. The findings suggested that all factors have a positive influence on post-purchase intention except service quality. Hong et al. (2008) based on TPB and factors represented individual needs and motivation to investigate the mobile data service continuance intention, the results showed that attitude, normative beliefs, perceived behavioral control and perceived monetary value positively related to continuance intention. A careful literature review indicated that there have been quite a few studies on the continuance intention of mobile travel booking service. Therefore, based on the aforementioned literature, this paper brings forward the theoretical model of researching the factors affecting continuance intention of mobile travel booking service, hoping to produce related findings by conducting questionnaire research and proof-testing the structural equation modeling.

2.2 Expectation-Confirmation Model

Bhattacharjee (2001a) put forward expectation confirmation model based on expectation confirmation theory which includes four factors: confirmation of expectations, perceived usefulness, satisfaction and continuance intention. Confirmation of expectations refers to a cognitive evaluation of an IS at the post-adoption stage (Bhattacharjee, 2001a). After users use IS, they will compare the cognitive effect with the expectation before use, and they conclude cognitive effect match with expectation. Perceived usefulness is defined as the degree to which the users believe that using an IS would increase their performance in accomplishing their goals (Davis, 1989). Satisfaction in a mobile service context refers to a psychological state resulting from an assessment of the perceived difference between expectation and performance (Chen et al., 2013). While continuance intention is whether the user is willing to continuously use the system in a long run. The ECM model posits that confirmation of expectation can positively affect perceived usefulness and satisfaction. Perceived usefulness and satisfaction positively affect continuance intention, and perceived usefulness will positively affect satisfaction. A lot of continuance intention researches choose this model as the theory foundation (Chen et al., 2013; Liang et al., 2013; Tang & Chiang, 2010; Kim, 2010; Bhattacharjee, 2001b) and the result fully confirmed ECM as a robust and parsimonious framework for understanding continuance intention behavior. However, it has not been tested in the context of mobile travel booking service. Hence, based on the ECM, we formulated the following research hypotheses.

Hypothesis 1: Satisfaction will be positively related to continuance intention of MTBS.

Hypothesis 2: Confirmation of expectations will be positively related to satisfaction of MTBS.

Hypothesis 3: Confirmation of expectations will be positively related to perceived usefulness of MTBS

Hypothesis 4: Perceived usefulness will be positively related to satisfaction of MTBS.

Hypothesis 5: Perceived usefulness will be positively related to continuance intention of MTBS.

2.3 Theory of Planned Behavior

Ajzen (1991) extended theory of reasoned action and proposed theory of planned behavior (TPB) to explain the decision-making process of individual behavior. TPB indicated that person's behavior intention will be affected by subjective norm and perceived behavioral control, and some studies discovered that two variables can also work on individual's continuance intention. (Lee, 2010; Kim, 2010). According to Ajzen (1991), subjective norm refers to the perceived social pressure to perform or not to perform the behavior. This pressure results from his important friends or relatives' idea whether to perform the behavior or not. Many users may choose to use mobile travel booking service because their friends, colleagues or relevant others recommend it to them. Perceived behavioral control is defined as people's perception of ease or difficulty in performing a certain behavior (Ajzen, 1991). The lower control of perceived behavior, the more uncontrollable factors perceived by consumers, the harder the behavior. While the higher control of perceived behavior, the less uncontrollable factors perceived by consumers, the easier the behavior. When using mobile travel booking, if user has high

control on perceived behavior, it is possible to increase his continuance intention. Hence, the following hypotheses are proposed.

Hypothesis 6: Subjective norm will be positively related to continuance intention of MTBS.

Hypothesis 7: Perceived behavioral control will be positively related to continuance intention of MTBS.

3. Method

3.1 Participants and Procedure

The participants of this study were tourists who had mobile travel booking experience. As a province, Guangdong surpasses all the other provinces in the number of users of China's mobile internet (2012), and thus assumably has the most users of mobile travel booking service. So the author chooses Guangzhou and Shenzhen, the two most developed cities in Guangdong, as the target place for questionnaire research and data collection. From June to October of 2013, the author distributed a total of 650 questionnaires at the airports, hotels and scenic spots, weeded the invalid ones and reclaimed a total of 534 valid questionnaires. Among them, 356 respondents are males (65.6%) and 187 are female (34.4%). A majority of the participants (68.3%) were between 18 and 30 years old. The education levels of respondents were 25.7% senior high school, 54.7% college and 19.6% graduate or above. The frequently used mobile travel booking APP were Ctrip (28.6%) and Qunar (21.3%). About half of them (48.6%) had 1-2 years usage experience. Average usage time in mobile travel booking per year was 6~8 times (58.7%).

3.2 Measures

To ensure the variables' credibility and validity, this paper tries to use the measuring indicator adopted by previous related literature and only does moderate modification on it according to the specificness of the mobile travel booking. Since the original measuring indicator is in English, to ensure its accuracy, we had it translated by a teacher of English first from English into Chinese, then from Chinese into English by another teacher. A 5-point scale is applied in measuring the targets. 1 stands for total disagreement and 5 total agreement. Items of continuance intention, user satisfaction and confirmation of expectation were drawn from original ECM (Bhattacharjee, 2001a). The four items measuring perceived usefulness were adapted from Davis (1989). The measures for subjective norm and perceived behavioral control were based on Taylor and Todd (1995). Before conducting the survey, five tourism management scholars and one information systems scholar reviewed the instrument. As a pre-test, a focus group of ten people who had previous mobile travel booking service experience also reviewed the instrument and provided feedback about the length of the instrument, content, question ambiguity and clarity of the questions. Table 1 list the items for the different constructs in the measure used

Table 1. Constructs, measurement items and sources

Construct	Item	Measurement
Perceived Usefulness(adapted from Davis, 1989)	PU1	MTBS allow me to accomplish my booking tasks more quickly.
	PU2	MTBS make me more efficient.
	PU3	MTBS make me more effective.
	PU4	Overall, I find MTBS useful.
Confirmation of Expectation(adapted from Bhattacharjee, 2001a)	COE1	My experience with using MTBS was better than what I expected.
	COE2	The service level provided by MTBS was better than I expected.
	COE3	Overall, most of my expectations from using MTBS were confirmed.
	COE4	How do you feel about your overall experience with MTBS use?
Satisfaction (adapted from Bhattacharjee, 2001a)	SAT1	Very dissatisfied/Very satisfied.
	SAT2	Very displeased/Very pleased.
	SAT3	Very frustrated/Very contented.
	SAT4	Absolutely terrible/Absolutely delighted.
Subjective Norm(adapted from Taylor and Todd, 1995)	SN1	People important to me support me to use MTBS.
	SN2	People who influence me behavior think than I should use MTBS.
	SN3	People whose opinions I value prefer me to use MTBS.
Perceived Behavioral Control(adapted from Taylor and Todd, 1995)	PBC1	I would be able to use MTBS.
	PBC2	Using MTBS is entirely within my control.
	PBC3	I have the resources, knowledge and ability to use MTBS.
Continuance Intention(adapted from Bhattacharjee, 2001a)	CI1	I intend to continue using MTBS rather than discontinue its use.
	CI2	My intentions are to continue using MTBS than use any alternative means.
	CI3	If I could, I would like to continue my use of MTBS.

4. Results

4.1 Measurement Model

Firstly, the paper had used reliability test on all the measurement indicators by SPSS 19.0. As show in Table 2, Cronbach's α ranking from 0.73 to 0.92 higher than the lowest critical value 0.7, which indicates that questionnaire has a good reliability. We carried out confirmatory factor analysis with AMOS 8.0 to figure out the fact that all composite reliabilities of various potential variable are higher than 0.7, confirming the inner consistency of measurements. Model's validity test was assessed by convergent validity and discriminant validity. Table 2 told us a fact that all item loading of various measured factors are between 0.69-0.92, higher than 0.5, and AVE is higher than 0.5 too, it indicated scale's relatively high convergent validity (Fornell & Larcker, 1981). Table 3 displays the discriminant validity of the various potential variables, among which the numerical value of the diagonal elements is the square root of AVE, and the numerical value under the diagonal elements stands for the factor correlation coefficients of the different potential variables. It is clear that the square roots of AVE of all the six potential variables are larger than the factor correlation coefficients between these potential variables and other ones, showing good discriminant validity between potential variables (Chin et al., 1997).

Table 2. Confirmatory factor analysis results for measurement model

Construct	Item	SD	Loading	Cronbach's α	CR	AVE
Perceived Usefulness (PU)	PU1	0.99	0.71	0.92	0.83	0.55
	PU2	1.02	0.72			
	PU3	1.12	0.75			
	PU4	1.01	0.78			
Confirmation of Expectation (COE)	COE1	1.07	0.84	0.83	0.89	0.73
	COE2	1.18	0.86			
	COE3	1.13	0.86			
Satisfaction (SAT)	SAT1	1.17	0.81	0.89	0.87	0.63
	SAT2	1.16	0.84			
	SAT3	1.22	0.82			
	SAT4	1.21	0.69			
Subjective Norm (SN)	SN1	0.93	0.76	0.90	0.83	0.57
	SN2	0.92	0.76			
	SN3	0.99	0.74			
Perceived Behavioral Control (PBC)	PBC1	1.06	0.92	0.73	0.93	0.83
	PBC2	1.21	0.91			
	PBC3	1.02	0.90			
Continuance Intention (CI)	CI1	1.02	0.91	0.86	0.91	0.77
	CI2	0.76	0.86			
	CI3	0.87	0.87			

Table 3. The square root of AVE and factor correlation coefficients

	1	2	3	4	5	6
1. Perceived Usefulness	0.742					
2. Confirmation of Expectation	0.504	0.854				
3. Satisfaction	0.462	0.571	0.794			
4. Subjective Norm	0.523	0.392	0.463	0.755		
5. Perceived Behavioral Control	0.456	0.361	0.506	0.559	0.911	
6. Continuance Intention	0.328	0.223	0.203	0.097	0.033	0.877

Note. Diagonal elements are the square root of AVE.

4.2 Structural Model and Hypothesis Testing

On the basis of confirmatory factor analysis, we put the potential variables and observed variables into the setting theoretical model to have structural equation analysis. And we test the above research hypothesis, fit index in model is $\chi^2/df=2.04$, GFI=0.91, CFI=0.92, NFI=0.92, RFI=0.94, RMSEA=0.06. According to Anderson & Gerbing's (1988) rational range of fit index, all the specifications show a favorable fit between

setting structural model with real data which can be used in confirmatory research hypothesis.

Figure 1 concluded the standardized path coefficient and hypothesized testing results, which indicates all the hypotheses can be supported. Satisfaction and perceived usefulness had the positive effect towards continuance intention of mobile travel booking service with the path coefficient 0.29 and 0.36. What's more, satisfaction was positively affected by confirmation of expectation and perceived usefulness, H2 and H3 are accepted. Meanwhile, confirmation of expectation had the positive effect on perceived usefulness with path coefficient 0.58, H5 is supported. Finally, H6 and H7 showed the influence of continuance intention from subjective norm and perceived behavioral, and the path coefficient are 0.28 and 0.23 respectively.

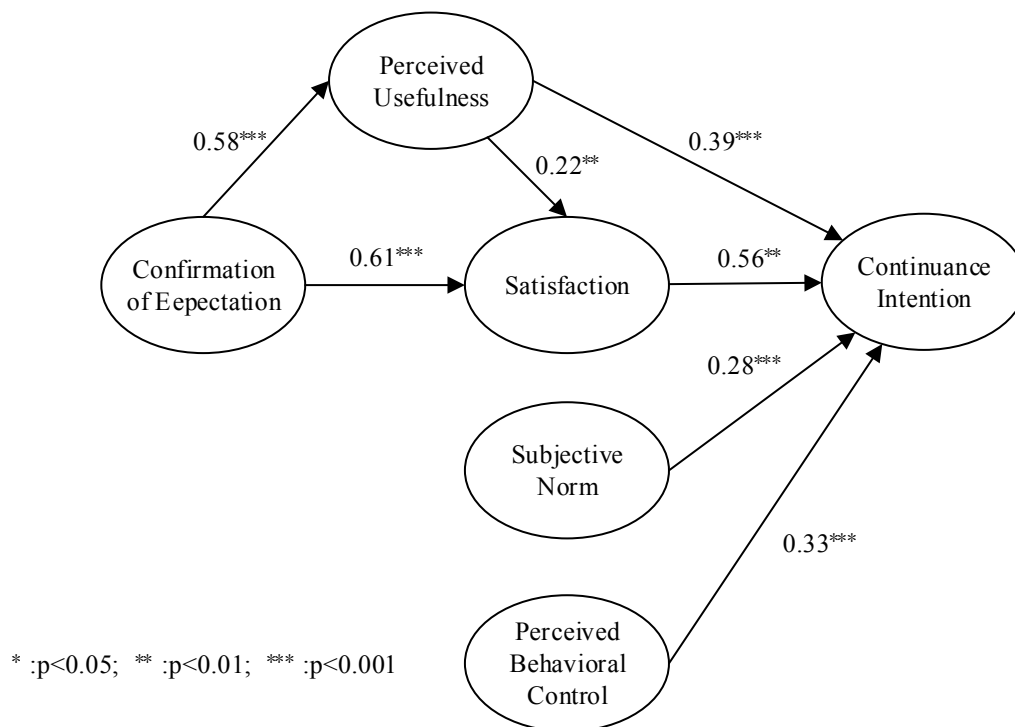


Figure 1. Results of structural modeling analysis

5. Discussion

This study adopts the expectation-confirmation model and theory of planned behavior to investigate the continuance intention of mobile travel booking service. Empirical data indicates there is favorable fitting ability among various variables, all the model hypothesis prove to be true.

As presented in our findings, perceived usefulness and satisfaction have positive influence on continuance intention of mobile travel booking service, and satisfaction plays the most important role, and then perceived usefulness works. This result is the same with the findings of Chen et al. (2013) and Bhattacharjee (2001a). After using a mobile travel booking service, the user will have the subjective evaluation on its experience. If they are dissatisfied, they might stop using it or choose other brand. Hence the supplier should attach full importance on user's satisfaction. In order to keep existing clients, they can track and monitor clients satisfaction evaluation. If it is reduced, the suppliers should find out the reason and figure out the solution. The results also show that satisfaction is positively affected by confirmation of expectation and perceived usefulness. Meanwhile, confirmation of expectation works positively on perceived usefulness, which is in line with Kim (2011) and Lee's (2010). This implies that the suppliers should construct proper expectation standard for client and the promotional information should be true in publicity. Because higher expectation and poor performance will play negative impact on clients. But high expectation will encourage its satisfaction and usefulness perception so as to positively affect user's continuance behavior. In terms of perceived usefulness, service suppliers should improve the functions of mobile travel booking to achieve shortcut search, inquiry, booking and payment. For example, Ctrip App (download from <http://app.ctrip.com/>) produced speech function, which means that customers can

finish all the mentions steps by talking to the mobile, which greatly increase people's usefulness perception and improve satisfaction and continuance intention.

Consistent with the work of Kim (2010), subjective norm is an important determinant of mobile travel booking service continuance intention. This implies that users think highly of suggestion from friends and relatives, the supplier of mobile travel booking service should include the social relation of the client as the marketing objectives as well by making full use of social influence of client to increase their continuance intention. Based on viewpoints of Lee (2010), perceived behavioral control positively affected the continuance intention. The easier the user thinks the mobile travel booking service is, the more possible he will have continuance intention. In the circumstance of free download of booking APP, the supplier of mobile travel service can cooperate with mobile producer to produce the mobile with mobile travel booking service to diminish the obstacle of using this service to increase their continuance intention.

Several limitation of this study should be addressed in the future. First, the proposed conceptual model was evaluated in Guangzhou and Shenzhen, though this region bear some representativeness, it can't be the symbol of the whole China. Additional empirical validation across different regions or countries would enhance the generalizability of the model. Secondly, the collected data of empirical research is the ones in horizontal level, namely the continuance intention variables to represent the continued use of the user, rather than the real continuous use behavior. Therefore, it is necessary to collect vertical data in following research to study on user's real behavior. What's more, the factors to affect user's continuance intention has not been taken into consideration which can be a topic in future study.

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